This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of claims

Claims 1-5. (canceled)

6. (currently amended) The method according to claim 78 ~~claim 60~~, wherein the serine acetyltransferase is overexpressed in the cytoplasm of plant cells.

Claims 7 and 8. (canceled)

9. (currently amended) The method according to claim 62, wherein the serine acetyltransferase is SAT3, which ~~SAT3 which~~ is represented by SEQ ID NO: 2.

Claims 10 and 11 (withdrawn).

Claims 12-14. (canceled)

Claims 15 and 16 (withdrawn).

17. (currently amended) The method according to claim 78 ~~claim 60~~, wherein the serine acetyltransferase is overexpressed in chloroplasts of plant cells.

18. (currently amended) The method according to claim 17, wherein the serine acetyltransferase is overexpressed in chloroplasts by integration, into chloroplast DNA of plant cells, of a chimeric gene comprising a DNA sequence encoding the serine acetyltransferase, wherein said DNA sequence is under the control of 5' and 3' regulatory elements which are functional in chloroplasts.

19. (previously amended) The method according to claim 17, wherein the serine acetyltransferase is overexpressed in the cytoplasm in the form of a transit peptide/ serine acetyltransferase fusion protein, wherein the mature functional serine acetyltransferase is released inside the chloroplasts.

20. (previously amended) The method according to claim 19, wherein the serine acetyltransferase and transit peptide of the fusion protein are from the same protein.

Claims 21 and 22 (withdrawn).

23. (previously amended) The method according to claim 19, wherein the serine acetyltransferase and the transit peptide of the fusion protein are from different proteins.

Claim 24 (canceled).

25. (previously amended) The method according to claim 23, wherein the transit peptide is a transit peptide from a plastid protein other than a chloroplast serine acetyltransferase.

26. (previously amended) The method according to claim 25, wherein the transit peptide consists of a plant EPSPS transit peptide or a plant RuBisCO ssu transit peptide.

Claims 27-30 (canceled).

Claims 31-59 (withdrawn).

60. (canceled)

61. (previously amended) The method of claim 6, wherein the serine acetyltransferase is a plant cytoplasmic serine acetyltransferase.

62. (previously amended) The method of claim 61, wherein the plant cytoplasmic serine acetyltransferase is from *Arabidopsis thaliana*.

Claims 63 and 64 (canceled).

65. (previously amended) The method of claim 19, wherein said serine acetyltransferase is a plant cytoplasmic serine acetyltransferase or a bacterial serine acetyltransferase.

Claims 66-69 (canceled).

70. (previously amended) The method of claim 25, wherein said transit peptide comprises a plant plastid transit peptide, an N-terminal portion of a mature plastid protein linked by its N-terminus to the C-terminus of said plastid transit peptide, and a second plastid transit peptide linked by its N-terminus to the C-terminus of said N-terminal portion of a mature plastid protein.

71. (currently amended) The method of claim 70, wherein said transit peptide is an optimized transit peptide (OTP) comprised of the sunflower RuBisCO ssu transit peptide fused to a peptide made of the twenty-two N-terminal amino acids of the mature maize RuBisCO ssu, which is in turn fused to the ~~to the~~ maize RuBisCO ssu transit peptide.

Claims 72 and 73 (canceled).

Claim 74 (canceled).

75. (currently amended). The method of claim 79 ~~claim 74~~, wherein said nucleotide sequence encodes SAT3, which ~~SAT3 which~~ is represented by SEQ ID NO: 2.

Claim 76. (canceled).

77. (currently amended) The method of claim 80 ~~claim 76~~ wherein said nucleotide sequence encodes SAT3, which ~~SAT3 which~~ is represented by SEQ ID NO: 2.

78. (new) A method for increasing the production of cysteine, glutathione, methionine or sulfur-containing derivatives of methionine by plant cells, said method consisting of

transforming plant cells with a nucleic acid sequence encoding a cysteine-insensitive serine acetyltransferase; and

optionally regenerating a transformed plant from said transformed plant cells,

whereby said transformed plant cells overexpress, or optionally said transformed plant overexpresses, serine acetyltransferase resulting in an increase in production of cysteine, glutathione, methionine, or sulfur-containing derivatives of methionine by said transformed plant cells or plant in comparison with the level observed in nontransformed plant cells or plant of the same type as said transformed cells or plant.

79. (new) A method for increasing the production of cysteine, glutathione, methionine or sulfur-containing derivatives of methionine by plant cells, said method consisting of

culturing plant cells transformed with a nucleic acid sequence encoding a cysteine-insensitive serine acetyltransferase;

whereby said transformed plant cells overexpress serine acetyltransferase resulting in an increase in production of cysteine, glutathione, methionine, or sulfur-containing derivatives of methionine by said transformed plant cells in comparison with the level observed in nontransformed plant cells of the same type as said transformed plant cells.

80. (new) A method for increasing the production of cysteine, glutathione, methionine or sulfur-containing derivatives of methionine by a plant, said method consisting of

culturing plant cells transformed with a nucleic acid sequence encoding a cysteine-insensitive serine acetyltransferase; and

regenerating a transformed plant from said transformed plant cells,

whereby said transformed plant overexpresses serine acetyltransferase resulting in an increase in production of cysteine, glutathione, methionine, or sulfur-containing derivatives of methionine by said transformed plant in comparison with the level observed in a nontransformed plant of the same type as said transformed plant.